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| 10/003,123 | 11/26/2001 | Andrew G. Swales | SAA-5-2 | 6275 |

7590

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| EXAMINER |
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LEZAK, ARRIENNE M

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| ART UNIT | PAPER NUMBER |
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2143

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,123

Applicant(s)

SWALES ET AL.

Examiner

Arrienne M. Lezak

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 11-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5, 6. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

3. Examiner finds the specification and claims to be lacking enablement pertaining to the simultaneous processing of layer protocols. Applicant uses the term "simultaneous" to describe the limitation, (Claim 24), however, the specification discloses a protocol optimization by converting the stack to a finite state machine by taking advantage of some assumptions during processing, (Specification paragraph #0038). A finite state machine does not necessarily imply simultaneous processing. Thus, Claim 24 is rejected based on lack of enablement.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claim 24 is further rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Examiner notes that the use of the term

"simultaneously" in reference to processing unclearly enumerates a limitation subject to several interpretations in light of the claimed subject matter and specification, and as such, renders the aforementioned Claim 24 as indefinite.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 11-15, 21, 24-29 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent US 6,321,272 B1 to Swales.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

8. Regarding Claims 11-14, 24 and 25, Swales discloses a network communication system comprising:

a master device for exclusively initiating a request message;

a slave device being exclusively responsive to the request message of the master device; and

an optimal communication stack protocol utilized to communicate the request message and the response message between the master and the slave devices, the optimal protocol comprising the simultaneous processing of:

an IP protocol;

a TCP protocol; and

an application layer MODBUS protocol wherein the building and parsing of the response message is responsive to a first part, or predetermined index of the request message, (Col. 5, lines 46-55; Col. 14, lines 16-34; Col. 15, lines 51-67; and Col. 16, lines 1-17).

9. Examiner notes that the prior art discloses the use of a form of network optimization via a network throttle, (Col. 14, lines 16-34). Note that said network throttle is implemented with state machines, (Col. 6, lines 39-48). Wherein as noted above, Applicant Claims a network optimization which incorporates the indefinite limitation of simultaneous processing which the specification describes as being implemented with a "state machine". Since Applicant's limitation uses the indefinite term "simultaneous", Examiner interprets the finite state machine of the "simultaneous processor" within Applicant's specification to be the same as the state machine of the "network throttle" as taught by the prior art.

10. Regarding Claims 15, 27 and 28, Swales discloses a network communication system comprising a set of predetermined response messages including at least one

predetermined response message, each predetermined response message being distinguishable by the first part of the request message wherein the predetermined response message is determined from the content of the first part of the request message and rapidly selected from the optimal communication stack for quickly responding to the request message, (Col. 2, lines 61-67; Col. 14, lines 16-34; Col. 15, lines 51-67; and Col. 16, lines 1-17).

11. Regarding Claims 21, 26 and 29, Swales discloses a network communication system wherein each device limits its message to a length that is less than both a TCP transaction length and a maximum transmission unit, (Col. 2, lines 61-67; Col. 3, lines 1-15; Col. 14, lines 16-34; Col. 15, lines 51-67; and Col. 16, lines 1-17).

12. Regarding Claim 31, Swales discloses an Ethernet module wherein the control processing unit is operably coupled to a factory automation unit, (Col. 15, lines 51-64).

13. Therefore, this reference may reasonably be read to teach or describe every element or claim limitation of Claims 11-15, 21, 24-29 and 31.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being obvious over further consideration of US Patent US 6,321,272 B1 to Swales.

16. Swales discloses the pre-configuration of real time data, (Col. 2, lines 61-64), however, Swales does not specifically indicate that the data include response message information pertaining to an address resolution protocol request message, an Internet control management protocol request message, a TCP connection request message, a TCP disconnect request message or a MODBUS request message as a TCP data frame.

17. To incorporate the specific-type response message information indicated above into the Swales apparatus would have been obvious to one of ordinary skill in the art at the time of invention by applicant as indicated within the teachings of Swales. The Swales apparatus comprises functionalities inclusive of those currently being claimed. As Swales includes the use of Ethernet, TCP/IP and MODBUS, (Col. 14, lines 16-34), within a setting wherein data is pre-configured, such specific response message information would be both obvious and necessary, in order to build an optimized network stack compatible with TCP/IP and MODBUS.

18. Thus, Claims 16-20 are unpatentable over the further consideration of the teachings of Swales.

19. Claims 22, 23 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent US 6,321,272 B1 to Swales in view of US Patent 5,757,924 to Friedman.

20. Swales discloses the use of TCP protocol, however, Swales does not exclusively utilize TCP port number 502, (pending Claims 22 and 30), wherein any message not transmitted via the TCP port number 502 is ignored, (pending Claim 23).

21. Friedman discloses a network device wherein a firewall/router decided whether to pass a packet based on the source and/or destination IP address and the TCP port number, (Col. 3, lines 62-67 and Col. 4, line 1).

22. To incorporate the filtering method of Friedman into the Swales apparatus would have been obvious to one of ordinary skill in the art at the time of invention be applicant as indicated within the teachings of Swales. The motivation to combine is found within the Swales teachings pertaining to the enforcement of traffic control via a proxy device and the use of a TCP protocol, (Col. 14, lines 16-34 and Col. 18, lines 11-15), which enforcement techniques would obviously include a variety of methods such as limitation by TCP port number.

23. Thus, Claims 22, 23 and 30 are unpatentable over the combined teachings of Swales in view of Friedman.

24. Claim 24 is further rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent US 6,321,272 B1 to Swales in view of US Patent 5,375,070 to Hershey.

25. As noted herein above, Swales discloses optimizing a MODBUS/TCP/IP stack with a network throttle, (Col. 6, lines 39-48), however, Swales does not specifically disclose or describe optimizing a MODBUS/TCP/IP stack with a "finite state machine" that takes advantage of a priori assumptions. Hershey discloses the use of finite state machines for performance optimization, (Col. 18, lines 37-48). The motivation to substitute the network throttle of Swales with the finite state machine of Hershey is to provide an architecture and method for applying a real time feedback control to the

logical or physical network behavior of a complex data communications network, (Hershey, Col. 3, lines 48-51).

26. Thus Claim 24 is also unpatentable over the combined teachings of Swales in view of Hershey.

27. Examiner notes that the applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Double Patenting

28. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

29. Claims 11-21, 24-29 and 31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of U.S.

Patent No. US 6,321,272 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because they encompass the same invention as indicated herein above.

30. Claims 11-14, 24 and 25 are also provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 32-39 of copending Application No. 10/140,273. Although the conflicting claims are not identical, they are not patentably distinct from each other. Examiner notes that with the exception of obvious differences, Independent Claims 32 and 36 from pending Application 10/140,273 are the same as Independent Claims 11 and 24 of pending Application 10/003,123. Such differences include but are not limited to, the particular claiming of a method, ('273), as opposed to the claiming of a system or module, ('123).

31. Examiner further rejects all dependant Claims as being literally identical or identical in nature, meaning and intent so as to be obviously identical. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion


32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arrienne M. Lezak whose telephone number is (703)-305-0717. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (703)-308-5221. The fax phone number for the organization where this application or proceeding is assigned is (703)-305-3718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-305-6121.

Arrienne M. Lezak
Examiner
Art Unit 2143

AML


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